

CLAIMS

What is claimed is:

1. A method of forecasting an occurrence of an event for a market variable, comprising the steps of:

(a) calculating a differential series from a series of terms of a financial parameter, said financial parameter series and said differential series each having successive-in-time terms, each term having one of a negative sign, a positive sign and a zero value;

(b) locating term trends in said differential series to identify upward trends of terms having a positive sign, downward trends of terms having a negative sign, and unchanged trends of terms having a zero value;

(c) calculating cumulative differentials of said located term trends to yield a cumulative differential series having successive-in-time terms;

(d) identifying a series of sign state progressions from said cumulative differential series to yield a sign state progression series;

(e) identifying a time position for a select term of the financial parameter series and identifying, for said time position, a corresponding term from each of said differential series, said cumulative differential series, and said sign state progression series; and

(f) locating, for a time prior to the time position of said select terms of said financial parameter series term, terms in the financial parameter series, the differential series, the cumulative differential series and the sign state progression series that satisfy predetermined criteria related to said terms identified in step (e) and utilizing said located

terms from this step (f) to define a probability for forecasting the occurrence of the event for the market variable.

2. The method of claim 1, wherein said step (f) further comprises a step (f)(1) of identifying subsequent terms to said located terms in the financial parameter series, the differential series, the cumulative differential series and the sign state progression series that satisfy a second predetermined criteria and utilizing said identified subsequent terms to define the probability for forecasting the occurrence of the event for the market variable.

3. The method of claim 2, wherein said step (f) further comprises a step (f)(2) of summing an amount of occurrences of positive, negative and unchanged ones of the subsequent terms identified in said step (f)(1) and calculating, based on said summed amount of occurrences, historical probabilities expressed as percentage values that one of an uptrend, a downtrend and an unchanged trend will occur for a term in said financial parameter series subsequent to said identified term corresponding to the identified time position in said step (e).

4. The method of claim 1, wherein the financial parameter comprises a plurality of financial parameters containing trend, additional trend and volatility parameters.

5. The method of claim 3, wherein the financial parameter comprises a plurality of financial parameters containing trend, additional trend and volatility parameters.

6. The method of claim 5, wherein said step (f) further comprises a step (f)(3) of separately multiplying each calculated uptrend historical probability, each calculated downtrend historical probability and each calculated unchanged historical probability by a weighting factor to yield a plurality of weighted products for each said uptrend, downtrend and unchanged historical probabilities, and separately summing said uptrend weighted products (designated by (PK)), said downtrend weighted products (designated by (PJ)), and said unchanged weighted products (designated by (PY)).

7. The method of claim 6, further comprising the step of calculating a trend probability index (TPI) according to the formula:

TPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the trend parameters.

8. The method of claim 6, further comprising the step of calculating an additional trend probability index (ATPI) according to the formula:

ATPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the additional trend parameters.

9. The method of claim 6, further comprising the step of calculating a volatility trend probability index (VTPI) according to the formula:

VTPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the volatility parameters.

10. The method of claim 5, wherein the financial parameter comprises a plurality of main parameters and volatility parameters.

11. The method of claim 10, wherein said step (f) further comprises a step (f)(3) of separately multiplying each calculated uptrend historical probability, each calculated downtrend historical probability and each calculated unchanged historical probability by a weighting factor to yield a plurality of weighted products for each said uptrend, downtrend and unchanged historical probabilities, and separately summing said uptrend weighted products (designated by (PK)), said downtrend weighted products (designated by (PJ)), and said unchanged weighted products (designated by (PY)).

12. The method of claim 11, further comprising the step of calculating a main trend probability index (MTPI) according to the formula:

$$\text{MTPI} = \max(\text{PK}; \text{PJ}) + \max(\text{PK}; \text{PJ})/100 * \text{PY} * \text{r} * \text{s},$$
 where s and r are weighting factors, and wherein PK, PJ and PY are derived from main parameters.

13. The method of claim 12, further comprising the step of calculating a volatility probability index (VTPI) according to the formula:

$$\text{VTPI} = \max(\text{PK}; \text{PJ}) + \max(\text{PK}; \text{PJ})/100 * \text{PY} * \text{r} * \text{s},$$
 where s and r are weighting factors, and wherein PK, PJ and PY are derived from volatility parameters.

14. A method of forecasting an occurrence of an event for a particular market variable, comprising the steps of:

(a) identifying, for each of a plurality of financial parameters, a corresponding financial parameter series having successive-in-time terms;

(b) calculating, for each said financial parameter series identified in step (a), a differential series having successive-in-time terms, each term having one of a negative sign, a positive sign and a zero value;

(c) locating term trends in each said differential series to identify for said each differential series upward trends of terms having a positive sign, downward trends of terms having a negative sign, and unchanged trends of terms having a zero value;

(d) calculating cumulative differentials of said located term trends from said each differential series to yield, for each said differential series, a cumulative differential series having successive-in-time terms;

(e) identifying, from each said cumulative differential series yielded in step (d), a plurality of sign state progressions yielding a sign state progression series;

(f) identifying a time position for a select financial parameter series term in each said financial parameter series and identifying, for said identified time position, corresponding terms from the respective differential series, cumulative differential series, and sign state progression series for the said each financial parameter series; and

(g) locating, for a time prior to the time position of said select term of each of said financial parameter series, terms in the financial parameter series, differential series, cumulative differential series and sign state progression series for the said each financial

parameter that satisfy predetermined criteria related to said terms identified in step (f) and utilizing said located terms from this step (g) to define a probability for forecasting the occurrence of the event for the particular market variable.

15. The method of claim 14, wherein step (g) further comprises a step (g)(1) of identifying subsequent terms to said located terms in each of the plurality of financial parameter series, differential series, cumulative differential series and sign state progression series that satisfy a second predetermined criteria, and utilizing said identified subsequent terms to define the probability for forecasting the occurrence of the event for the particular market variable.

16. The method of claim 15, wherein said step (f) further comprises a step (f)(2) of summing an amount of occurrences of positive, negative and unchanged subsequent terms identified in said step (g)(1) and calculating, based on said summed amount of occurrences, historical probabilities expressed as percentage values that one of an uptrend, a downtrend and an unchanged trend will occur for a term in said financial parameter series subsequent to said identified term corresponding to the identified time position in said step (f).

17. The method of claim 16, wherein said plurality of financial parameters comprise trend, additional trend and volatility parameters.

18. The method of claim 17, wherein said step (g) further comprises a step (g)(3) of separately multiplying each calculated uptrend historical probability, each calculated downtrend historical probability and each calculated unchanged historical probability by a weighting factor to yield a plurality of weighted products for said uptrend, downtrend and unchanged historical probabilities, and separately summing said uptrend weighted products (designated by (PK)), said downtrend weighted products (designated by (PJ)), and said unchanged weighted products (designated by (PY)).

19. The method of claim 18, further comprising the step of calculating a trend probability index (TPI) according to the formula:

TPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the trend parameters.

20 The method of claim 18, further comprising the step of calculating an additional trend probability index (ATPI) according to the formula:

ATPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the additional trend parameters.

21. The method of claim 18, further comprising the step of calculating a volatility trend probability index (VTPI) according to the formula:

VTPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the volatility parameters.

22. A method of forecasting an occurrence of an event for a market variable, comprising the steps of:

(a) calculating a successive-in-time $n-m$ term differential series, each term having one of a negative sign, a positive sign and a zero value, from a successive-in-time n term series of a financial parameter, being $n > m > 0$;

(b) locating term trends in said differential series to identify upward trends of consecutive terms having a positive sign, downward trends of consecutive terms having a negative sign, and unchanged trends of consecutive terms having a zero value;

(c) calculating cumulative differentials of said located term trends to yield an $n-m$ successive-in-time term cumulative differential series, with each trend represented by at least one term in the cumulative differential series;

(d) identifying a series of sign state progressions from said cumulative differential series to yield an $n-m$ term sign state progression series;

(e) identifying a time position for a select term of the financial parameter series and identifying, for said time position, a corresponding term from each of said differential series, said cumulative differential series, and said sign state progression series; and

(f) locating, for a time prior to the time position identified in step e), terms in the financial parameter series, the differential series, the cumulative differential series and the sign state progression series that satisfy predetermined criteria related to said terms identified in said step (e) and utilizing said located terms from this step (f) to define a probability for forecasting the occurrence of the event for the market variable.

23. The method of claim 22, wherein said step (f) further comprises a step (f)(1) of identifying subsequent terms to said located terms in the financial parameter series, the differential series, the cumulative differential series and the sign state progression series that satisfy a second predetermined criteria and utilizing said identified subsequent terms to define the probability for forecasting the occurrence of the event for the market variable.

24. The method of claim 23, wherein said step (f) further comprises a step (f)(2) of separately counting, based on said second predetermined criteria, respective ones of positive, negative and unchanged occurrences of the subsequent terms identified in said step (f)(1) and calculating, based on said counted amount of occurrences, historical probabilities expressed as percentage values that one of an uptrend, a downtrend and an unchanged trend will occur for a term in said financial parameter series subsequent to said identified term corresponding to the identified time position in said step (e).

25. The method of claim 24, wherein the financial parameter comprises a plurality of financial parameters containing trend, additional trend and volatility parameters.

26. The method of claim 25, wherein said step (f) further comprises a step (f)(3) of separately multiplying each uptrend historical probability, each downtrend historical probability and each unchanged historical probability by a respective one of a plurality of weighting factors, each weighting factor in said plurality corresponding to a financial

parameter in said plurality of financial parameters, said plurality of weighting factors having a sum equal to 1, to yield a plurality of weighted products for each said uptrend, downtrend and unchanged historical probabilities, and separately summing said uptrend weighted products (designated by (PK)), said downtrend weighted products (designated by (PJ)), and said unchanged weighted products (designated by (PY)).

27. The method of claim 26, wherein the financial parameter comprises a plurality of main parameters and volatility parameters.

28. The method of claim 27, further comprising the step of calculating a trend probability index (TPI) according to the formula:

TPI = max(PK;PJ) + max(PK;PJ)/100*PY*s*r, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the trend parameters;

calculating an additional trend probability index (ATPI) according to the formula:

ATPI = max(PK;PJ) + max(PK;PJ)/100*PY*s*r, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the additional trend parameters;

calculating a volatility trend probability index (VTPI) according to the formula:

VTPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from the volatility parameters; and

calculating a main trend probability index (MTPI) according to the formula:

MTPI = max(PK;PJ) + max(PK;PJ)/100*PY*r*s, where s and r are weighting factors, and wherein PK, PJ and PY are derived from main parameters.